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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,807	11/01/2001	David J. Edlund	NPW 320	6085

7590 01/06/2006
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EXAMINER

BHAT, NINA NMN

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/016,807	EDLUND, DAVID J.	
	Examiner	Art Unit	
	N. Bhat	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above claim(s) 26-34 and 65-78 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 and 35-64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-78 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Election of claims 1-71 without traverse is acknowledged.
2. Action on the merits of claims 1-27 and 35-64 follows:
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-27 and 35-64 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative under 35 U.S.C. 103(a) by GB 2 283 235.

GB 2 283 235 teach a fuel processing system which includes reformer for producing hydrogen from feed stream containing feedstock, a reforming catalyst bed to produce a mixed gas stream containing hydrogen gas and other gases from the feed stream and a separation region to separate the mixed gas stream into a hydrogen rich stream and a by product stream. The separator which is used can be one or more membranes, the membrane can compressed a palladium or a palladium alloy, and the alloy can be palladium-silver alloy. GB 2 283 235 teach that feedstock used for producing hydrogen includes hydrocarbon containing material as well as water. GB 2 283 235 teaches that the pressure in the chamber on the other side of the hydrogen separator is at a pressure less than that in the reforming chamber, a difference of 3 bar

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is suitable as a result of the difference in partial pressures, the hydrogen diffused through the hydrogen separator membrane from the first chambers to the second chamber. GB 2 283 235 does not specifically teach that there is an odorant contained within the hydrocarbon feedstock stream. The odorant is considered to be inherent in hydrocarbon fuel streams because there are odors in many of the fuel feedstock, diesel and methanol are both suitable fuel streams which are taught to be used in the fuel processor of GB 2 283 235, these same feedstock are used in applicant's invention and therefore the odorants used in fuels are notoriously well known and are used in produced fuels and since the starting material used in GB 2 283 235 is the same as claimed by applicant it is considered to be an inherent property of the fuel to be used or alternatively and obvious expedient contained within the fuel. With respect to applicant's claims which recite the odorant is volatile, distasteful, the odorant has a particular boiling point, this also considered to be inherent and/or obvious to one having ordinary skill in the art at the time the invention was made unless applicant specifically shows that the odorants employed in the feedstock of instant invention different than what is being used in the fuel processor of GB 2 283 235. [Note the abstract, Page 2-Page 7]

5. Claims 1-27 and 35-64 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Holland et al.

Holland et al. teach a fuel processing reactor for converting a feed stream to a first reformate stream comprising hydrogen, a first hydrogen separator located downstream of the primary fuel processing reactor and fluidly connected thereto for

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receiving the first membrane for separating the first reformate stream into a first hydrogen rich stream and a first retentate stream and a secondary fuel processing reactor. Holland teaches a hydrogen separation unit employs hydrogen permeable membrane material made of palladium or palladium alloy films. Holland teaches that the hydrocarbon feedstock include sources such as gasoline, diesel, natural gas, ethane, butane light distillates, dimethyl ether, methanol, ethanol, propane, kerosene, naphtha's, and combinations thereof. The feedstock and further includes water vapor, oxidant or both to the primary fuel. [Note Column 3, lines 55 to Column 5, line 67] Holland further teach that the pressure through the first reforming, the separation membrane and the secondary reformer includes pressure controlled using compressors and ejectors for controlling the pressure in the reformers and separation device. Holland does not specifically recite that the feedstock used in the reformers includes a odorant but this would be considered to be inherent because there are odors in many of the fuel feedstock, diesel and methanol are both suitable fuel streams which are taught to be used in the fuel processor of Holland, these same feedstock are used in applicant's invention and therefore the odorants used in fuels are notoriously well known and are used in produced fuels and since the starting material used in Holland is the same as claimed by applicant it is considered to be an inherent property of the fuel to be used or in the alternative and obvious expedient as the odorants are added to the fuels and gases as a safety feature of the fuel. With respect to applicant's claims which recite the odorant is volatile, distasteful, the odorant has a particular boiling point, this also considered to be inherent unless applicant specifically shows that the odorants

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employed in the feedstock of instant invention are different than what is being used in the fuels processed by Holland. Holland further implies that pre-treatment or post-treatment of the feedstock is know especially if the fuel used is other than an alcohol or ether and if required desulfurization can take place so as to minimize the deleterious effects of sulfur on the catalyst which implies that adding fuel additives such as odorants are known and recognized by those having ordinary skill in the art and in order to prevent poisoning of the catalyst there are pre-treatments to remove sulfur compounds which are known odorants in fuels which are removed so as to prevent the poisoning of the catalysts used in processing the hydrocarbon feeds.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wheeldon et al. teach a compact methanol steam reformer with integrated hydrogen separator. Edlund et al. teach a hydrogen selective metal membrane. Edlund et al. '937 teach a hydrogen purification device used in fuel processing systems.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Bhat whose telephone number is 571-272-1397. The examiner can normally be reached on Monday-Friday, 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'N. Bhat', with a long, sweeping horizontal stroke extending to the right.

N. Bhat
Primary Examiner
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